

Applicants : Christopher D. Ruppel et al.  
Appn. No. : 09/911,087  
Page : 2

**REMARKS**

Claims 1-26 remain present and are rejected in this application. Applicants respectfully request reconsideration and allowance of the present application.

In the latest (non-final) Office Action, the Examiner rejected claims 1-5, 8, 10-14, 17, 19, 20, and 23-26 under 35 U.S.C. § 102(b) as being anticipated by Takeuchi (U.S. Patent No. 4,459,667) (hereinafter "Takeuchi"). The Examiner also rejected claims 6, 15, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi in view of Adachi et al. (U.S. Patent Application Publication No. 2002/0055813) (hereinafter "Adachi et al."); rejected claims 7 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi and Adachi et al. and further in view of Yamanaka et al. (U.S. Patent No. 3,893,114) (hereinafter "Yamanaka et al."); and rejected claims 9, 18, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi in view of Porambo (U.S. Patent No. 5,379,449) (hereinafter "Porambo"). Applicants respectfully traverse these rejections for the reasons presented below.

Before discussing the rejected claims and the applied references, it is important to appreciate Applicants' claimed invention and the advantages realized therefrom. The invention provides for a system and method for improving the signal processing capability of a mobile receiver located in a vehicle in the presence of multi-path distortion. Initially, the speed of the vehicle is determined. Next, signal information on a selected signal received by the mobile receiver is collected. The collected signal information provides an indication of the quality of the received signal. Then, at least one time constant associated with the processing of the collected signal information is modified responsive to the determined speed.

With respect to the rejection of claims 1-5, 8, 10-14, 17, 19, 20, and 23-26 under 35 U.S.C. § 102(b) as being anticipated by Takeuchi, Applicants respectfully submit that the Takeuchi reference fails to teach each and every claim limitation. At the outset, Applicants note that Takeuchi is primarily directed to a guidance method and system for an automobile that switches from an electronic navigational signal method to a dead

Applicants : Christopher D. Ruppel et al.  
Appln. No. : 09/911,087  
Page : 3

reckoning method when the field strengths of navigational signals drop below a predetermined level, and switches from a dead reckoning method to an electronic navigational method when the field strengths of navigational electromagnetic signals exceed a lower limit. Takeuchi does not appear to teach collecting signal information on a selected received signal that is received by a mobile receiver, the collected signal information providing an indication of the quality of the received signal, wherein the collected signal information is provided by a signal quality circuit, and modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.

Referring to Fig. 8 of Takeuchi, the examiner urges that position calculation units 7 and 11 are signal quality circuits providing the collected signal information, and that at least one time constant associated with the processing of the collected signal information is modified responsive to the determined vehicle speed, according to col. 12 lines 20-28, col. 13 lines 49-67, and cols. 9-14. Applicants respectfully disagree with the examiners interpretation of these elements.

First, Applicants submit that Takeuchi does not disclose that the position calculating unit 7 is a signal quality circuit. In addition, Takeuchi does not appear to disclose the position calculating unit 7 as providing collected information on a received signal that is indicative of the quality of the signal received by the mobile receiver 2. Calculating unit 7 appears, at most, to provide a velocity signal that is passed through from speed sensor 6, and a calculated position value for display on display 9, neither of which appear to be disclosed as indicative or the quality of the signal received by mobile receiver 2.

Next, Applicants submit that block 11 of Fig. 8 in Takeuchi does not appear to be a signal quality circuit as disclosed in Figs. 2 and 3 and paragraphs 20-27 of the present application. Rather, Takeuchi discloses block 11 of Fig. 8 as being a "speed calculating unit 11 for detecting a vehicle speed  $V_s$ " on the basis of vehicle position values provided by detection unit 3 (col. 11 lines 15-25). It would appear that speed

Applicants : Christopher D. Ruppel et al.  
Appn. No. : 09/911,087  
Page : 4

calculating unit 11 provides a calculated velocity output based on a position input provided by position detection unit 3. Block 11 is also referred to as a "speed calculating unit" in col. 11 lines 25-26, col. 11 line 6, and col. 11 lines 37-38. Takeuchi does not refer to block 11 as a signal quality circuit, nor does Takeuchi appear to mention block 11 containing elements commonly associated with a signal quality circuit as disclosed in the present application.

Finally, even if speed calculating unit 11 in Takeuchi is somehow considered to be a signal quality circuit, it does not appear that "at least one time constant associated with processing of the collected signal information" is modified responsive to the determined vehicle speed. Although Takeuchi does disclose several time constants, it does not appear that any could be considered to be modified responsive to the determined vehicle speed. Disclosed time constant K1 is used to determine whether or not the calculated vehicle speed is much greater than the measured vehicle speed, and is not disclosed as being modified or modifiable. Takeuchi also discloses an interpolation constant that is used to calculate vehicle position when using the electrical navigational signal method. This interpolation constant is derived from the tables disclosed in Takeuchi and is not disclosed as being modified or modifiable. Takeuchi also discloses a constant delay time in switching from the dead reckoning method of position determination to the electrical navigational signal method, and *vice versa*. Again, this is a constant time that is not disclosed as being modified or modifiable. Finally, time constant K2 is disclosed as being used to determine if the vehicle is in motion. It is a predetermined time constant of a retriggerable monostable multivibrator of speed detection unit 13, and is "chosen equal to the cyclic time period of the pulse train when the vehicle is traveling at a speed k2 . . ." (col. 13 lines 51-54). It is likewise not disclosed as being modified or modifiable.

In order to anticipate a claim, the reference must teach each and every limitation of the claim. Because Takeuchi fails to teach "collecting signal information on a selected received signal that is received by the mobile receiver, the collected signal

Applicants : Christopher D. Ruppel et al.  
Appln. No. : 09/911,087  
Page : 5

information providing an indication of the quality of the received signal, wherein the collected signal information is provided by a signal quality circuit; and modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed.", Takeuchi fails to teach each and every element of the claimed invention. Accordingly, the rejection of claims 1-5, 8, 10-14, 17, 19, 20 and 23-26 under 35 U.S.C. § 102(b) as being anticipated by Takeuchi should be withdrawn.

The Examiner also rejected dependent claims 6, 7, 9, 15, 16, 18, 21 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi, in view of Adachi et al., Yamanaka et al., and Porambo et al. Regarding claims 6, 15, and 21, the Examiner relies on Adachi et al. for teaching collected signal information providing an indication of an ultrasonic noise level associated with a received signal. Regarding claims 7 and 16, the Examiner relies on Yamanaka et al. for teaching that collected signal information also provides an indication of a wideband amplitude modulation level associated with a received signal. Regarding claims 9, 18 and 22, the Examiner relies on Porambo for teaching at least one output of at least one of an average detector, a peak detector, and a full-wave detector being utilized to initiate at least one of a soft-mute, a high-cut, and a stereo noise control function.

Applicants first note that dependent claims 6, 7, 9, 15, 16, 18, 21 and 22 depend from independent claims 1, 10 and 19, and should be allowable for the reason set forth above with respect to the independent claims. The Examiner does not appear to rely on Adachi et al., Yamanaka et al., or Porambo to provide the elements of independent claims 1, 10, and 19 missing from Takeuchi. In addition, Applicants note that Yamanaka et al. and Adachi et al. do not appear to be analogous art. Finally, Applicants challenge the Examiner's assertions that it would have been obvious to one of ordinary skill in the art to combine the teachings of Takeuchi with Adachi et al., Yamanaka et al., or Porambo. Because the combined references do not teach or suggest all elements of claims 6, 7, 9, 15, 16, 18, 21 and 22, an obvious rejection

Applicants : Christopher D. Ruppel et al.  
Appln. No. : 09/911,087  
Page : 6

under 35 U.S.C. § 103(a) is improper, and should be withdrawn for at least this additional reason.

By way of the foregoing discussion, Applicants have demonstrated that claims 1-26 are not anticipated by Takeuchi, and would not have been rendered obvious in view of Takeuchi in combination with Adachi et al., Yamanaka et al., and Porambo. Accordingly, the rejections of claims 1-26 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) should therefore be withdrawn, which action is respectfully requested.

Applicants respectfully submit that this reply is fully responsive to the above-referenced Office Action.

### CONCLUSION

In view of the above remarks, it is submitted that claims 1-26 define patentable subject matter and are in condition for allowance, which action is respectfully solicited. If the Examiner has any questions or comments with respect to this reply, the Examiner is invited to contact the undersigned at 616/949-9610.

Respectfully submitted,

10/27/05  
Date

  
\_\_\_\_\_  
Kevin T. Grzelak, Registration No. 35 189  
PRICE, HENEVELD, COOPER, DEWITT & LITTON, LLP  
695 Kenmoor SE  
P.O. Box 2567  
Grand Rapids, Michigan 49501-2567  
616/949-9610

KTG/JWJ/jrb/saw